Taxonomy and Knowledge Management

Joseph Busch, Principal Consultant
Agenda

- Use Case: Aligning Our Stuff
- Taxonomy and Faceted Search
- Knowledge Organization vs Knowledge Management Governance
Taxonomy creates order, makes sense of things…
…which can be especially helpful in times of change
Work evolves over time
Discovering the taxonomy lens…
... Discovering the taxonomy lens
Through a small victory, expanding the view…
Why create a taxonomy? 6 value propositions

- Improve search
- Be responsive to information requests
- Provide capability to measure results
- Mitigate risks
- Facilitate complete and consistent content tagging
- Enable oversight, monitoring and improvement
- …
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What is a taxonomy?

- A taxonomy is a particular form of controlled vocabulary in which the labels are organized according to a hierarchy.
Multiple classifications problem

- There is no single or best way to classify things; what’s best varies across individuals, cultures, depends on purpose and context.

Master hierarchy

Derivative hierarchies – Alternative views

Derivative hierarchies – Subsets

Facets & relationships
What are taxonomy facets

- Faceted taxonomy is a classification approach for identifying a set of discrete smaller taxonomies called facets that can be combined to express the characteristics of or context for a category.

- Busch’s golden law of facets: “Four facets of 10 nodes each have the same discriminatory power as one taxonomy of 10,000 nodes.” – Steve Papas, Endeca founder
Origins of faceted classification

- Mathematician/librarian S.R. Ranganathan (1920s)
- Developed as an alternative to Dewey Decimal System for books.
- “Colon Classification” facets
  1) Personality – topic or orientation
  2) Matter – things or materials
  3) Energy – actions
  4) Space – places or locations
  5) Time – times or time periods

S.R. Ranganathan. Painting by A. Ramakrishna, Art teacher, K.V. No. 2, Vijayawada
(http://www.thehindu.com/multimedia/dynamic/01548/12isbs-ranga_G4_12_1548490e.jpg)
Facet design best practices

- Number of facets: 4-8, with 5-6 as ideal
- Facets listed in logical, not alphabetical order
- Number of terms per facet: 2-25
  - Ideally not much more than can be viewed in a scroll box
  - If the list is obvious (US states), then up to 50 is OK.
- If <12 terms, then a logical display order, >12 then alphabetical
- A two-level hierarchy (indented) within a facet is possible
What does taxonomy do for search?

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Related search</td>
<td>Query corrections … did you mean?</td>
</tr>
<tr>
<td>Concept search</td>
<td>Query expansion with synonyms, abbreviations, acronyms, etc. … do you also want?</td>
</tr>
<tr>
<td>Ontology-based search</td>
<td>Query expansion with narrower or broader terms; scoping exhaustive search results</td>
</tr>
<tr>
<td>Faceted search</td>
<td>Dynamic filtering of search results; online shopping</td>
</tr>
<tr>
<td>Clustering</td>
<td>Dynamically bucketing search results into pre-defined categories</td>
</tr>
<tr>
<td>Subscriptions</td>
<td>RSS feeds, alerts, SDI (selective dissemination of information), etc.</td>
</tr>
<tr>
<td>Personalization</td>
<td>Weighting search results based on explicit profiles and implicit data (where you’ve been and what you’ve done)</td>
</tr>
</tbody>
</table>
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## KO vs. KM

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<thead>
<tr>
<th>Knowledge Organization</th>
<th>Knowledge Management</th>
</tr>
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<tbody>
<tr>
<td>Organize information in business applications using processes that produce useful and accurate categories of information.</td>
<td>Manage information and other forms of knowledge as strategic resources and encourage sharing of knowledge.</td>
</tr>
<tr>
<td>… is concerned primarily with categorization of assets for access and discovery.</td>
<td>… is concerned primarily with curation of assets for sharing and application of knowledge.</td>
</tr>
</tbody>
</table>
KO → KM

You can’t have KM without first having KO, i.e., you’ve got to have stuff to share, and a means to describe and organise it, before you can share it.

But, KM provides new requirements for context and focus of KO – the two activities impact and inform each other.
4 pillars of governance

Value Statement
Roles & Responsibilities
Policies & Procedures
Communications
## KO Governance

<table>
<thead>
<tr>
<th>Pillars</th>
<th>Objectives</th>
</tr>
</thead>
</table>
| Value Statement      | o Improve search.  
                       | o Be responsive to target audiences.  
                       | o Provide capability to measure results.  
                       | o Mitigate risks.  
                       | o Facilitate complete and consistent content tagging.  
                       | o Enable taxonomy oversight, monitoring and improvement.                                                                                   |
| Roles & Responsibilities | o Decide what metadata fields should be required to tag content.  
                       | o Decide whether or not a controlled vocabulary is required for a metadata field, and what vocabulary should be used.  
                       | o Decide the source for a controlled vocabulary and how should it be validated.                                                         |
| Policies & Procedures | o Define the process to add, edit or delete metadata fields or controlled vocabulary terms.  
                       | o Define the editorial guidelines on how to form labels.                                                                                   |
| Communications       | o Explain the process to request a change.  
                       | o Explain governance roles and responsibilities, including overall goals of the KO strategy, and decision-making process.  
                       | o Present the value of KO in a meaningful and concise manner.                                                                              |
# KM Governance

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<tr>
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<tr>
<td>Value Statement</td>
<td>- Promote and share key organizational learnings.</td>
</tr>
<tr>
<td></td>
<td>- Improve individual and organizational performance.</td>
</tr>
<tr>
<td></td>
<td>- Provide for measurement and accountability for results.</td>
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<td>- Obtain competitive advantage.</td>
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<tr>
<td></td>
<td>- Mitigate risks.</td>
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<td></td>
<td>- Promote innovation.</td>
</tr>
<tr>
<td>Roles &amp; Responsibilities</td>
<td>- Decide the criteria for new KM applications and services.</td>
</tr>
<tr>
<td></td>
<td>- Decide the criteria for assets to include in KM applications and services.</td>
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<tr>
<td></td>
<td>- Decide the criteria to evaluate KM applications and services.</td>
</tr>
<tr>
<td>Policies &amp; Procedures</td>
<td>- Define the process to add, evaluate and improve KM applications and services.</td>
</tr>
<tr>
<td></td>
<td>- Define the process to add, edit and delete assets from KM applications and services.</td>
</tr>
<tr>
<td>Communications</td>
<td>- Explain the process to build, evaluate and improve KM applications and services.</td>
</tr>
<tr>
<td></td>
<td>- Explain governance roles and responsibilities, including overall goals of the KM strategy,</td>
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<tr>
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<td>and decision-making process.</td>
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<td>- Present the value of KM in a meaningful and concise manner.</td>
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Summary

- KO governance is focused on metadata fields and values, and how to obtain complete and consistent tagging of assets.
- KM governance is focused on curation of assets, and how to obtain organizational value from them so that the whole is greater than the sum of its parts.
Questions

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What are the key components of taxonomy? Knowledge organization underpins knowledge management with an array of taxonomy tools and processes, and the more that you understand it, the greater the opportunity for knowledge management success. This session will be an overview of taxonomy—how taxonomy works and the problems it solves. We’ll talk about taxonomy standards, common taxonomy components, taxonomy governance, and how taxonomy enables knowledge management. Finally, we’ll look at examples of taxonomy in different types of organizations.